CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/GSB-1/GR/2014-15 Date : 09.10.2014

GRADATION FOR GSB-I (CLOSE GRADED)
IS: 2720 (Part 4)

Client : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of work : Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014

Date of Testing : 09.10.2014

Sample Source : GSB Mix Plant Bangalore. **Oven Dry Wt (gm) :** 25300

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
75.0	0	0	0.00	0	100
53.0	995	995	3.93	96.07	80-100
26.50	6310	7305	28.87	71.13	55-90
9.50	4585	11890	47.00	53.00	35-65
4.75	3320	15210	60.12	39.88	25-55
2.36	2275	17485	69.11	30.89	20-40
0.425	4450	21935	86.70	13.30	10-25
0.075	2180	24115	95.32	4.68	3-10
PAN	1185				
Total	25300				

Civil-Tech Consultants & Engineers Bangalore

Remarks: Satisfies MORTH Specifications as per Table 400-1, Grading I

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CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/W.No.15/KRIDL/WMM/Gradation/2014-15

14.10.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager (West),** KRIDL, Bangalore.

Name of Work : Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.

Reference : BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014

Date of Testing : 14.10.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **25700**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	965	965	3.8	96.2	95-100
22.4	6250	7215	28.1	71.9	60-80
11.2	5145	12360	48.1	51.9	40-60
4.75	4360	16720	65.1	34.9	25-40
2.36	3185	19905	77.5	22.5	15-30
0.600	2230	22135	86.1	13.9	8-22
0.075	2280	24415	95.0	5.0	0-8

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CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BM/Bitumen/2014-15 24.10.2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS MACADAM MIX

As Per IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kalasthinagar Govt. School W.No.15
DATE OF TESTING	24.10.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482.5	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	17.5	18.00
7. Bitumen content in %	3.50	3.60
8. Average	**3.55**	

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Job No.: CTCE/BBMP/W.No.15/KRIDL/BM/Bitumen/2014-15 24.10.2014

GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As Per IS 2386 and IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kalasthinagar Govt. School W.No.15
DATE OF TESTING	24.10.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	32.48	6.73	6.73	93.27	90-100
13.2	126.3	26.18	32.91	67.09	56-88
4.75	217.8	45.14	78.05	21.95	16-36
2.36	56.94	11.80	89.85	10.15	4-19
0.3	12.63	2.62	92.47	7.53	2-10
0.075	5.28	1.09	93.56	6.44	0-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	33.69	6.99	6.99	93.01	90-100
13.2	121.4	25.19	32.18	67.82	56-88
4.75	223.7	46.41	78.59	21.41	16-36
2.36	54.28	11.26	89.85	10.15	4-19
0.3	11.69	2.43	92.27	7.73	2-10
0.075	5.84	1.21	93.49	6.51	0-8

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.15/KRIDL/BC/Bit/2014-15 25.10.2014

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX AS PER IRC:SP:11-1984

CLIENT	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kalasthinagar Govt. School W.No.15
DATE OF TESTING	25.10.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	26.00
7. Bitumen content in %	5.20	5.20
8. Average	**5.20**	

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Job No.: CTCE/BBMP/W.No.15/KRIDL/BC/Bit/2014-15 25.10.2014

GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

AS PER IS2386 & IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Improvements and Asphalting to Kalasthinagar Govt. School Road and right side area in Dasarahalli in Ward No.15, BBMP, Bangalore.
REFERENCE	BBMP/DZ/AEE/TDSD/PR/2014-15 Dated: 06.10.2014
SAMPLE I/D	Kalasthinagar Govt. School W.No.15
DATE OF TESTING	25.10.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	474	
19	0	0	0	100	100
13.2	43.65	9.21	9.21	90.79	79-100
9.5	38.57	8.14	17.35	82.65	70-88
4.75	83.62	17.64	34.99	65.01	53-71
2.36	94.74	19.99	54.97	45.03	42-58
1.18	43.28	9.13	64.11	35.89	34-48
0.6	35.62	7.51	71.62	28.38	26-38
0.3	22.47	4.74	76.36	23.64	18-28
0.15	35.29	7.45	83.81	16.19	12-20
0.075	44.12	9.31	93.11	6.89	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	54.87	11.58	11.58	88.42	79-100
9.5	36.23	7.64	19.22	80.78	70-88
4.75	72.45	15.28	34.50	65.50	53-71
2.36	92.58	19.53	54.04	45.96	42-58
1.18	45.23	9.54	63.58	36.42	34-48
0.6	34.12	7.20	70.78	29.22	26-38
0.3	26.58	5.61	76.38	23.62	18-28
0.15	35.23	7.43	83.82	16.18	12-20
0.075	44.87	9.47	93.28	6.72	4-10

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